U.S. Department of Transportation
Federal Highway Administration
Docket No. FHWA-2021-0022
Development of Guidance for Electric Vehicle Charging Infrastructure Deployment

Comments in Response to RFI by Hawaiian Electric Company, Inc.

Introduction

Hawaiian Electric Company, Inc. ("Hawaiian Electric" or "Company") is pleased to offer these comments in response to Request for Information (RFI) posted by the Federal Highway Administration on November 29, 2021 (Federal Register, Vol. 86, No. 226, Page 67783) opening Docket No. FHWA-2021-0022 Development of Guidance for Electric Vehicle Charging Infrastructure Deployment. Hawaiian Electric is the regulated electric service provider for approximately 95% of the state of Hawaii's population, covering all counties in the state, except for the County of Kauai.

Hawaii's climate and energy independence goals aim to make the Aloha State a national leader in clean energy. On June 8, 2015, Hawai'i became the only state with a legislative goal of 100% renewable energy by 2045 with the signing of HB 623. In 2017, Governor Ige signed Act 32, making the state the first to align its energy and environmental policy with the 2016 Paris Climate Agreement's emission reduction targets. With Act 15 (HB2182), the state pledged to become carbon neutral by 2045.[1] Hawaii's four counties in 2017 pledged to eliminate fossil fuel use from ground transportation by 2045.[2] Advancing clean transportation will be a necessary component to achieve these goals.

Hawaii's 2021 Legislative Session passed landmark clean transportation policies for the state, boosting momentum for Electric Vehicle (EV) adoption. Act 73[3] and Act 74[4] bolster the State's commitment to EV adoption by requiring travelling state employees to rent EVs where available, and the prioritization of zero-emission vehicles when purchasing or leasing light, medium, and heavy-duty motor vehicles for all state agencies. Act 75[5] supports the continued establishment of EV charging infrastructure at multi-unit dwellings and commercial facilities by allocating a portion of "barrel tax" revenues to maintain the Hawaii Energy[6] EV Charging System Rebate program. The Act also supports EV charging infrastructure by adding county enforcement of designated public

[1] See https://governor.hawaii.gov/newsroom/latest-news/governors-office-news-release-governor-david-ige-signs-bills-to-set-carbon-neutral-goal-and-combat-climate-change/
[2] Business Journal, 2017, "Hawai'i counties pledge to eliminate fossil fuels from ground transportation." https://www.bizjournals.com/pacific/news/2017/12/12/hawaii-counties-pledge-to-eliminate-fossil-fuels.html
[3] https://www.capitol.hawaii.gov/measure_indiv.aspx?billtype=HB&billnumber=424
[4] https://www.capitol.hawaii.gov/measure_indiv.aspx?billtype=HB&billnumber=552&year=2021
[5] https://www.capitol.hawaii.gov/measure_indiv.aspx?billtype=HB&billnumber=1142&year=2021
[6] https://hawaiienergy.com/for-business/rebates/electric-vehicle-charging-stations

EV parking spaces,[7] as well as requiring that each new EV charging system installed is at least a level 2 network-capable charging station maintained in working order.

Hawai‘i is ranked second out of the top 13 markets for electric/plug-in hybrid market share, and tenth for light truck share.[8] Despite these efforts and strides made, there is still a long way to go. As of December 2021, there are 17,735[9] EVs registered in the State – just 1.6 percent of the total passenger vehicles registered. Most of the State's EVs (17,205) fall within Hawaiian Electric's service territories. The steep ramp needed to meet the state's clean transportation goals will not be possible without an expansion of public EV charging infrastructure in the state. Public charging, especially reliable fast charging, is needed to a) support the daily travel needs of individuals and fleet drivers that exceed current vehicle ranges, b) enable inclusive EV ownership beyond those with access to home charging, c) enable inclusive EV ownership for diverse rural and urban communities, and d) overcome range anxiety to enable visitors, residents, and governments to purchase, lease, or rent EVs.[10]

In 2018, Hawaiian Electric undertook an extensive planning and stakeholder process to develop the Company's Electrification of Transportation Strategic Roadmap ("Roadmap")[11] which outlined ten initiatives designed to help achieve clean transportation goals, support customer mobility options, and realize the significant ratepayer benefits of electric transportation while leveraging the utility's strengths and supporting joint actions with partners across the space. In the year following the filing of the Roadmap, the Company filed the Critical Backbone Study: Planning Methodology ("Backbone Study")[12] which was designed to identify the landscape of charging infrastructure needs over the coming decade. More specifically, the Backbone Study sought to forecast public and private EV charging demand in 2025 and 2030. The

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[7] Hawaii Revised Statute §291-71 Designation of parking spaces for electric vehicles; charging system. http://www.capitol.hawaii.gov/hrscurrent/Vol05_Ch0261-0319/HRS0291/HRS_0291-0071.htm

[8] See Hawaii Dealer Magazine 2021 Edition 2, page 27 (or Hawaii Auto Outlook page 6): https://issuu.com/traveler-media/docs/hawaiidealer_edition_2

[9] Department of Business, Economic Development & Tourism, Research & Economic Analysis, Monthly Energy Trends, Monthly Energy Data: Historical data from January 2006 to September 2021, accessed October 22, 2021. http://dbedt.hawaii.gov/economic/energy-trends-2/

[10] See, for example Tweed, K. 2013, "Fast Charging Key to Electric Vehicle Adoption, Study Finds," https://www.greentechmedia.com/articles/read/fast-charging-key-to-electric-vehicle-adoption-study-finds Li et al., 2015, "The Market for Electric Vehicles: Indirect Network Effects and Policy Impacts," University of Chicago Press Journals, https://www.journals.uchicago.edu/doi/full/10.1086/689702, The International Council on Clean Transportation, 2019, "Estimating electric vehicle charging infrastructure costs across major U.S. metropolitan areas," https://theicct.org/sites/default/files/publications/ICCT_EV_Charging_Cost_20190813.pdf, Hardman, S. et al, 2018, "A review of consumer preferences of and interactions with electric vehicle charging infrastructure," Transportation Research Part D: Transport and Environment, 62:508-523, https://www.sciencedirect.com/science/article/abs/pii/S1361920918301330?via%3Dihub

[11] Docket No. 2016-0168, Electrification of Transportation Strategic Roadmap filed March 29, 2018.

[12] Docket No. 2018-0315, Electrification of Transportation Electric Vehicle Critical Backbone Study: Planning Methodology filed July 30, 2019.

Backbone Study shows that there is a significant need for both public and private charging infrastructure to support the growing adoption of EVs.

Through the National Electric Vehicle Formula Program (EV Charging Program), the law provides funding to States to strategically deploy EV charging infrastructure and to establish an interconnected network to facilitate data collection, access, and reliability. The law also establishes a discretionary grant program for Charging and Fueling Infrastructure (Charging and Fueling Infrastructure Program) to strategically deploy publicly accessible EV charging infrastructure and hydrogen, propane, and natural gas fueling infrastructure along designated alternative fuel corridors or in certain other locations that are accessible to all drivers of such vehicles. To truly combat the climate crisis, all entities at the state and local government, utilities, and public and private sectors should be eligible for Federal funds or grants. Hawaiian Electric's comments are provided under each of the statutory considerations for the EV Charging Program.

1. **The distance between publicly available EV charging infrastructure**

   Recommendation: The Company recommends that the guidance allow for flexibility in defining and characterizing the appropriate distances between publicly available EV charging infrastructure, not be overly prescriptive, and also consider other factors discussed below (i.e., utility distribution system capability and community being served).

   The distance between publicly available EV charging infrastructure must consider a state's unique geography, especially for Hawai'i which consists of separate islands that are not interconnected to North America or between the islands (see Figure 1). Hawaiian Electric serves 95 percent of Hawaii's 1.4 million residents on the islands of O'ahu, Hawai'i, Maui, Lana'i, and Moloka'i. Each island is different in size (land mass) and occupancy (number of residents).[13] For example, as shown in Figure 2, Hawai'i Island covers the largest land mass which is greater than all the other islands combined. Although Hawai'i Island has the largest land mass, O'ahu has the most residents and the majority of EVs leading to the most dense communities needing public charging. In this context of "distance," the state's unique geography therefore requires each island to procure and ship transportation fuel along with fuel for non-renewable electricity generation. The reliance on the global shipping industry creates a significant risk of interruptions due to climate change and supply chain related impacts. Therefore, increasing locally sourced renewable energy generation can improve resiliency for both electricity and transportation sectors in an increasingly electrified future.

[13] See: http://census.hawaii.gov/home/population-estimate/

*Figure 1. Map of the Hawaiian Islands*

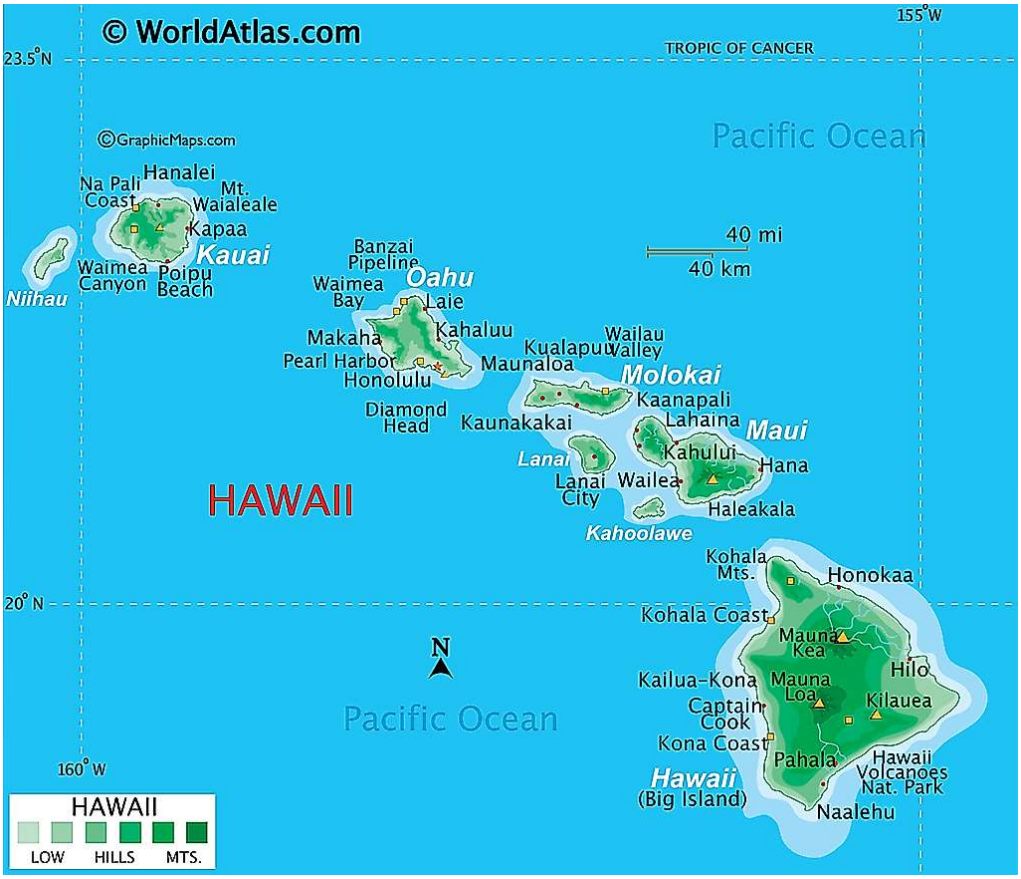
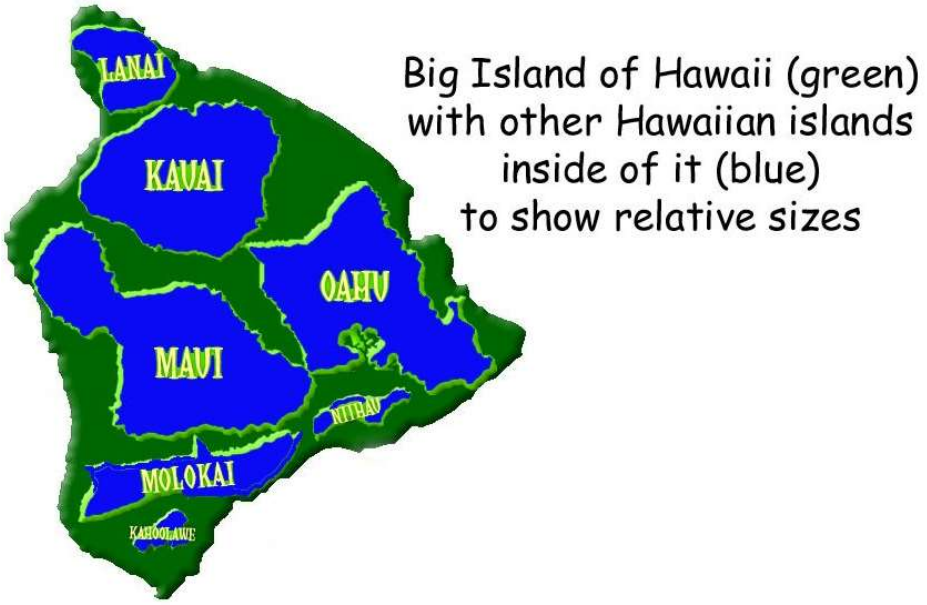


*Figure 2. Relative Size of the Hawaiian Islands*[14]




2. **Connections to the electric grid, including electric distribution upgrades; vehicle-to-grid integration, including smart charge management or other protocols that can minimize impacts to the grid; alignment with electric distribution interconnection processes, and plans for the use of renewable energy sources to power charging and energy storage;**

   Recommendation: Hawaiian Electric recommends that utilities be eligible for funding under the EV Charging Program for electric grid upgrades, grid support, data sharing technologies, as well as charging stations and make-ready infrastructure as owners and operators or in partnership with third-parties.

   Electric utilities play a key role in this area by working collaboratively with site hosts, permitting authorities, and vendors to ensure that the electric distribution system is able to accommodate the EV charging loads.

   Hawai‘i is a leader in clean energy and with a goal of achieving 100% clean energy by 2045. Hawaiian Electric achieved 34.5% Renewable Portfolio Standard[15] (RPS) in 2020 exceeding the required 30%. The next RPS goal is 40% by 2030, and then 70% by 2040 on the way to 100% by 2045. As mentioned in section 1. above, the islands in the state of Hawai‘i are not interconnected and must serve each island’s individual needs on its own. This offers unique challenges and opportunities for the islands’ electric grids compared to the interconnected contiguous U.S. states. Hawai‘i has an abundant amount of

[14] See: https://www.mauihawaii.org/hawaiian-islands-size-population/
[15] See: https://www.capitol.hawaii.gov/hrscurrent/Vol05_Ch0261-0319/HRS0269/HRS_0269-0092.htm

intermittent renewable energy resources such as solar and wind, and Hawaiian Electric is in the process of adding hundreds of megawatts of solar paired with battery energy storage systems (BESS) as well as stand-alone BESS to the electric grid.[16]

Hawaiian Electric has been developing EV charging rates since 2010 which are based on time-of-use designed to incentivize "smart charging" during the day when solar energy is abundant and to avoid the evening peak load. There are EV rates for residential customers, commercial business customers, bus operators, and for public charging. Hawaiian Electric recently received approval to deploy an innovation pilot framework, that will enable the utility to quickly test and deploy new technologies that can enable greater customer and grid benefits. In particular, the Companies will propose pilots over the next few years that explore deeper integration of EVs as grid resources for demand response and other grid support needs.

To achieve Hawaii's decarbonization goals, investment in the resilience of the electric grid will be required including generation, transmission, and distribution upgrades. Continued investigation and investment of emerging technologies such as vehicle-to-grid integration, smart charge management or other protocols that can minimize impacts to the grid will also be necessary.

3. **The proximity of existing off-highway travel centers, fuel retailers, and small businesses to EV charging infrastructure acquired or funded under the Program;**

Recommendation: Hawaiian Electric recommends avoiding overly prescriptive conditions regarding proximity to existing off-highway travel centers, fuel retailers, and small businesses to EV charging infrastructure, because the noted variability in geography and population density may require different support structures.

Hawai'i does not have interstate driving and the state's limited highways are under intensive use by residents and visitors. The unique geographic and population makeup of each Hawaiian Island significantly informs the potential use and need of current and future EV charging infrastructure. The large variation in population by island requires different refueling needs and opportunities across the state and on each island. A mix of EV charging levels and proximity are needed at major destination points in rural and urban locations to meet driving needs of commercial, residential, and visiting commuters on each island.

[16] See: https://www.hawaiianelectric.com/clean-energy-hawaii/our-clean-energy-portfolio/renewable-project-status-board

Under the Federal Highway Administration's Alternative Fuel Corridors, Hawai'i has designated EV Pending Corridors on the islands of O'ahu, Hawai'i, Maui, Lana'i, Moloka'i, and Kaua'i and EV Ready Corridors on O'ahu, Hawai'i, and Maui. No additional EV charging infrastructure has been acquired or funded under the FHWA Program.

Hawaiian Electric was a supporting party in all three EV Ready nominations with the Company's public DC Fast Charger Pilot program playing a pivotal role in the EV Ready designations as the majority of Hawaii's existing DC fast charging infrastructure is owned and operated by Hawaiian Electric. Hawaiian Electric has and will continue to be a supporting partner to the deployment and installation of publicly accessible EV charging infrastructure across the Company's service territory as expanding access to EV charging in rural areas, low- and moderate-income neighborhoods, and communities with a high ratio of multi-unit dwellings to single family homes is a Company priority.

4. **The need for publicly available EV charging infrastructure in rural corridors and underserved or disadvantaged communities;**

Recommendation: Hawaiian Electric recommends that the EV Charging Program funding include engaging rural and disadvantaged communities in a meaningful way that respects the needs and desires of those communities, rather than focus on a "one size fits all" approach to locating EV charging infrastructure. Guidance should consider that the return on investment for rural or disadvantaged locations may not be as competitive as other locations but serves the purpose of providing a critical backbone of charging infrastructure and allows for social equity by enabling all demographics to be part of the clean energy/decarbonized future.

Recognizing that transportation equity is multifaceted and involves considerations beyond income designations, meaningful community engagement is critical to ensure that public EV chargers are desired and utilized by the communities they are intended to benefit. As part of program development, applicants should be encouraged to pursue active education and outreach to rural, underserved, and disadvantaged communities as ongoing community engagement is needed to ensure the equitable distribution of EV charging infrastructure throughout Hawai'i and the nation.

Local utilities and governments are critical to serving EV charging needs of disadvantaged communities. The concept of universal service, which is imposed on the regulated utility by the State means that the EV charging infrastructure should be extended to all geographies, neighborhoods, and communities. As an integral part of the Hawaii's community, with over 125 years of business, Hawaiian Electric continues to pursue meaningful engagement with the local community by building on relationships with trusted community-based organizations, gathering input from stakeholder meetings, and developing surveys

and tools to identify underserved communities, understand their mobility preferences, and determine the most beneficial sites for EV charging. In a recent online survey, Hawaiian Electric received significant participation from the community with a suggested 1,812 preferred locations for future charging sites.[17] The highest concentration of suggested charging sites was located in both highly urban neighborhoods, like Ala Moana and Kakaako, and rural communities, such as Ka'u and Hana. These findings support the broad community desire for EV charging and the need for a geographically diverse and equitably accessible network. The Company has and will continue to, engage with a wide range of stakeholders to support a distributed geographically diverse charging network sufficient to overcome range anxiety barriers, minimizing costs, and supporting equitable accessibility. The deployment of an equitably distributed EV charging network cannot focus solely on forecasted utilization, as many rural or disadvantaged communities may not yet have robust adoption of EVs, but the availability of charging infrastructure will help support that transition, even if it is on a longer timeline.

5. **The long-term operation and maintenance of publicly available EV charging infrastructure to avoid stranded assets and protect the investment of public funds in that infrastructure;**

Recommendation: Hawaiian Electric recommends that Program funding be provided for the on-going operation and maintenance (O&M) of publicly available EV charging infrastructure as well as the replacement of EV charging equipment and infrastructure as the cost to maintain may exceed the cost for replacement as equipment ages. The Program funding application should require a plan for O&M of the charging stations, including roles and responsibilities, to avoid stranded assets. This should include an estimate of on-going O&M costs the applicant will be budgeting for once the charging stations are installed to ensure acknowledgement of and planning for the continual investment needed to keep the charging stations operational. Fostering the development of local skills and trades to support the new infrastructure will be crucial to continued success of the infrastructure investments, as well as to reap the projected benefits of establishing a "green economy" that provides jobs and workforce development in this new field. Therefore, the Program funding should provide technical assistance and workforce development training for local contractors, trades, and unions for the repair and maintenance of EV charging infrastructure to ensure the on-going availability of EV charging infrastructure.

Despite the generally positive experiences with public fast charging, ongoing charger repair speed remains an industry-wide issue. In Hawaiian Electric's experience with owning and operating publicly available EV charging infrastructure, the greatest challenge to fast repair service has been the speed with

[17] www.chargeuphi.com

which the Company can receive replacement parts from the contiguous U.S. Charger parts are ordered once a repair is needed, and Company staff must then wait days to months for delivery before providing repair service. Hawaii's remote location means this is a challenge faced by the Company and by private sector charging companies alike. One of the key lessons learned from Hawaiian Electric's Public Fast Charger Pilot program is to explore ways to mitigate these delays by increasing on-hand stock of key components, parts, and equipment. The Company has begun changing its internal maintenance and repair approach by stocking key replacement parts locally in order to more quickly respond to equipment issues, significantly reducing repair times and reducing the impact of outages for site hosts and drivers.

Given the current economic conditions in Hawai‘i due to the COVID-19 pandemic, the Program funding can serve as a source of clean economic recovery by creating construction opportunities for infrastructure installation and workforce development opportunities for EV charging station maintenance. The long-term transformation of the workforce to a "green economy" presents not just a major opportunity, but a critical path forward.

6. **Existing private, national, State, local, Tribal, and territorial government EV charging infrastructure programs and incentives;**

Recommendation: The federal investment funds is a critical resource to scale up existing and developing programs and initiatives by mitigating cost impacts. Program applicants should be required to reference any approved plans and programs within their jurisdiction and incorporate those existing resources into their applications to avoid duplicative planning and deployment. Hawaiian Electric and the State of Hawaii are committed to the increased adoption of zero emission vehicles and have been developing programs and initiatives to advance these goals; including the build out of charging infrastructure. The following are some existing EV charging infrastructure programs and incentives:

| **Existing Programs/Incentives** | **Description** |
|---|---|
| FHWA Alternative Fuel Corridors | EV Pending Corridors on the islands of O‘ahu, Hawai‘i, Maui, Lana‘i, Moloka‘i, and Kaua‘i<br>EV Ready Corridors on O‘ahu, Hawai‘i, and Maui |
| Volkswagen Settlement Environmental Mitigation Funds | Approved funding request for the total eligible fifteen percent ($1,218,750) of Trust funds on Light Duty Zero Emission Vehicle Supply Equipment to expand Hawaii's statewide EV charging network and support the state's fleet electrification efforts. |

| Existing Programs/Incentives | Description |
|---|---|
| Electrify America | Electrify America selected Honolulu as one of 18 metropolitan areas to receive investment in DC fast chargers as part of the second phase of the organization's National Zero Emissions Vehicle Investment Plan. Electrify America's investment in Honolulu will support from three to eight DC fast charging stations. |
| Hawaii Energy EV Charging Station Rebate | Available rebates for new installations or retrofits for dual port Level 2 charging stations and DC fast charging stations. Additional funding is available for Level 2 stations installed at affordable housing properties. |
| Act 75 – EV parking stall designation | Supports the continued establishment of EV charging infrastructure at MUDs and commercial facilities by allocating a portion of "barrel tax" revenues to maintain the Hawaii Energy EV Charging System Rebate program. The Act also supports EV charging infrastructure by adding county enforcement of designated public EV parking spaces (HRS §291-71), and requiring that each new EV charging system installed is at least a level 2 network-capable charging station maintained in working order |
| Hawaii Revised Statutes Section 196-7.5: Placement of EV charging system; multi-family residential or townhouse | Placement of electric vehicle charging system. (a) Notwithstanding any law to the contrary, no person shall be prevented…from installing an electric vehicle charging system on or near the parking stall of any multi-family residential dwelling or townhouse that the person owns. |
| City and County of Honolulu Bill 25 updated Honolulu's building code to include EV Ready requirements | New Multi-unit residential buildings: if more than 8 parking stalls, at least 25% of the stalls much be EV ready<br>New commercial buildings: If more that 12 parking stalls, at least 25% must be EV ready |
| Hawaiian Electric EV-U Pilot and EV-MAUI program | By mid-2022, Twenty-nine (29) Hawaiian Electric owned and operated public DC fast charging stations sites |
| Hawaiian Electric EV-J & EV-P Pilot rates | EV specific rates for commercial properties to encourage time-of-use charging |

| Existing Programs/Incentives | Description |
|---|---|
| Hawaiian Electric eBus Make-Ready Infrastructure | Make-ready infrastructure pilot program where the Company would design, install, and own the infrastructure up to, but not including the customer's eBus charging station. |

**7. Fostering enhanced, coordinated, public-private or private investment in EV charging infrastructure;**

Recommendation: Hawaiian Electric recommends including outreach and education as a condition for any EV Charging Program.

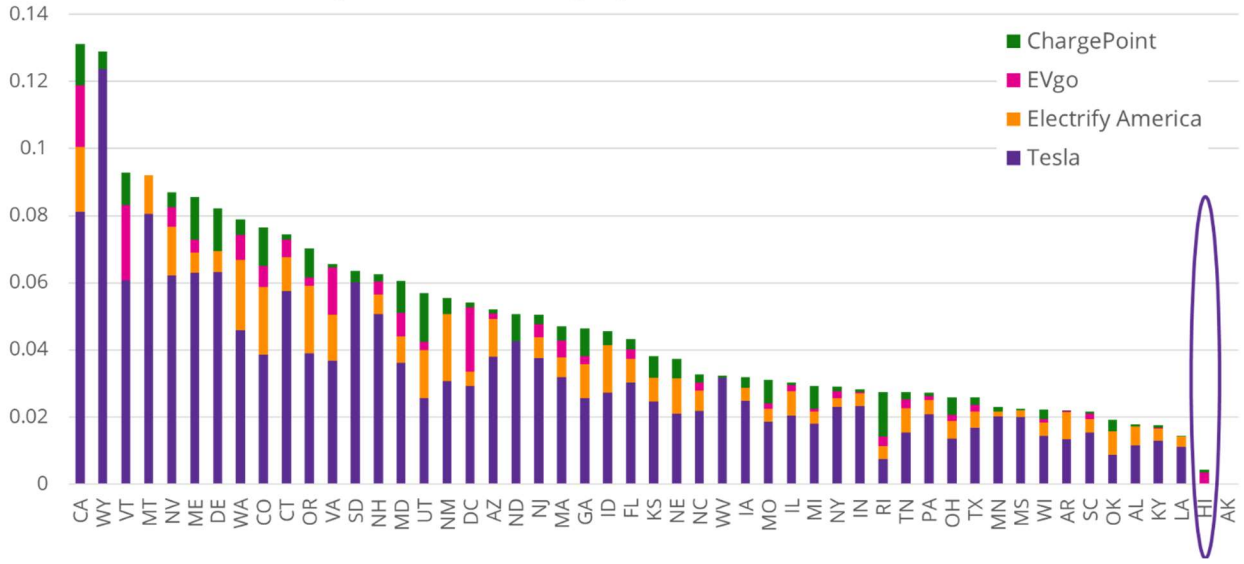
Hawaiian Electric has provided pilot programs in EV charging infrastructure since 2013.

- In 2020, the Company developed "make-ready" infrastructure pilot programs where the Company would design, install, and own the infrastructure up to, but not including the customer's EV charging station. The pilot programs were targeted for customer segments including electric buses,[18] workplaces, commercial businesses, fleets, and multi-unit dwellings.[19]
- The Company has owned and operated public direct current fast charging ("DCFC") stations under a pilot program.[20] Based on the learnings from the pilot, the Company applied for a permanent public charging program, aimed at deploying an increased number of public EV charging stations through the decade. Hawaiian Electric submitted its application requesting approval from Hawaii's Public Utilities Commission in October 2021.[21]

The state of Hawai'i is currently home to only six fast chargers that are not owned by Hawaiian Electric, giving it the second-lowest rate of DCFC port installs per capita by the dominant fast charging networks (see Figure 3). At this point, the private sector planning for public fast charger installations appears to be limited and focused primarily on the Honolulu area.

[18] Docket No. 2020-0098 For Approval of the eBus Make-Ready Infrastructure Pilot Project. See: https://www.hawaiianelectric.com/products-and-services/electric-vehicles/charge-up-ebus-pilot
[19] Docket No. 2020-0202 For Approval of the Charge Ready Hawai'i Pilot Project
[20] See: https://www.hawaiianelectric.com/products-and-services/electric-vehicles/fast-charging
[21] Docket No. 2021-0173 For approval to commit funds in excess of $2,500,000 for the Public Electric Vehicle Charger Expansion Project

*Figure 3. Current DC Fast Charger Ports Installed per 1,000 Residents by Major DC Fast Charging Networks*




*Source: Atlas EV Hub. Note: HI ports do not include EVgo-branded stations owned and operated by Hawaiian Electric.*

Importantly, Hawaii's isolation adds additional challenges for charging companies that can be particularly material at low installation volumes - in particular, requiring a dedicated on-island installation, maintenance, and repair team (or significant travel costs and delays) and longer delivery times for parts. This isolation is unique among U.S. states and has likely made early-stage development of public charging on the islands uniquely challenging, despite residents' high interest in EVs and the beneficial lower average driving distances in Hawai'i compared to the rest of the U.S. Installing a reliable backbone of public infrastructure can accelerate momentum in EV adoption in Hawai'i and help create sufficient demand for a competitive DCFC market. The Company's intent is to provide public charging sufficient to spur the EV customer base to an inflection point where adoption levels and utilization rates can support a healthy, lasting competitive market that will provide the vast majority of investment needed. Hawaiian Electric's efforts to support and develop an investment-friendly market environment would be further supported by financial support for outreach and education tied to infrastructure deployment funding.

8. **Meeting current and anticipated market demands for EV charging infrastructure, including with regard to power levels and charging speed, and minimizing the time to charge current and anticipated vehicles;**

   Recommendation: Hawaiian Electric recommends that the EV Charging Program funding not be overly prescriptive in establishing quantity or design requirements of EV charging equipment and infrastructure, thereby providing flexibility for

future technology and market demands. In addition, Program guidelines should include funding for utility studies and tools to evaluate and support EV adoption, enabling greater insight into costs and impacts of increased energy consumption as well as enable deeper insight into demand response and other grid support opportunities that EV integration may provide.

Hawaiian Electric agrees that EV charging infrastructure must meet current and anticipated market demands while being flexible to account for changing technology in EVs and charging equipment. Hawaiian Electric undertook an extensive planning and stakeholder process to develop a Roadmap and Backbone Study which was designed to identify the landscape of charging infrastructure needs over the coming decade. More specifically, the Backbone Study sought to forecast public and private EV charging demand in 2025 and 2030. The Backbone Study shows that there is a significant need for both public and private charging infrastructure to support the growing adoption of EVs. The EV Charging Program funding should account for studies, research, and analytical tools for anticipated growing market demands.

With regard to power levels and charging speed and minimizing the time to charge current and anticipated vehicles, it is important to have the flexibility in determining the configuration of the charging stations at a particular site to meet the specific needs of each site and community they are serving. For example, some communities may need more or less DCFC or more or less Level 2 charging stations at a given location. EV infrastructure siting should not have overly prescriptive requirements that could limit the eligible types of sites and slow the deployment of charging infrastructure. Many sites lack a configuration that allows for minimally complex and low-cost charger installation. Factors that hinder suitability and therefore increase cost include lack of power availability, a lengthy distance from the proposed charging stall to the electrical service connection, lack of space for charging stations and electrical equipment (i.e., for Americans with Disability Act compliance), and public safety issues, such as remote, non-lit locations or proximity to a flood zone. Suitability of sites can also be impacted by working clearances and scheduling issues, such as site renovation plans that may complicate the project.

9. **Any other factors, as determined by the Secretary. In connection with question 9, please describe any other factors that you suggest that we consider in developing the EV Charging Program guidance.**

In addition to the recommendations set forth in other sections of this response, Hawaiian Electric recommends that the guidance should provide additional information on what data would need to be shared, how it would be shared, and costs associated with obtaining/storing the data, since as stated in the Background on page 67783, the EV Charging Program funds must also be used for "(3) data

sharing about EV charging infrastructure to ensure the long-term success of investment made under the program."

FHWA also requests comments to inform the implementation of the Charging and Fueling Infrastructure Program to provide discretionary grants for corridor and community charging.

10. **Please provide examples of best practices relating to project development of EV charging infrastructure and hydrogen, propane, and natural gas fueling infrastructure at the State, Tribal, and local levels.**

    One of the key aspects to the success of large-scale infrastructure development is a strong effort to develop a strategic plan that considers the multi-faceted impacts and concerns surrounding such an effort. A well considered, stakeholder-driven strategic plan can help avoid future challenges and disputes and increase "buy-in" and support if more parties are involved. This effort is costly and time consuming, but will ultimately increase the likelihood of the infrastructure project's success.

    Despite the generally positive experiences with public fast charging, ongoing charger repair speed remains an industry-wide issue. In Hawaiian Electric's experience with owning and operating publicly available EV charging infrastructure, the greatest challenge to fast repair service has been the speed with which the Company can receive replacement parts from the contiguous U.S. Charger parts are ordered once a repair is needed, and Company staff must then wait days to months for delivery before providing repair service. Hawaii's remote location means this is a challenge faced by the Company and by private sector charging companies alike. One of the key lessons learned from Hawaiian Electric's Public Fast Charger Pilot program is to explore ways to mitigate these delays by increasing on-hand stock of key components, parts, and equipment. The Company has begun changing its internal maintenance and repair approach by stocking key replacement parts locally in order to more quickly respond to equipment issues, significantly reducing repair times and reducing the impact of outages for site hosts and drivers.

11. **What topics do you suggest that we address in guidance on project development of EV charging infrastructure and hydrogen, propane, and natural gas fueling infrastructure at the State, Tribal, and local levels to allow for the predictable deployment of that infrastructure?**

    Guidance on project development to allow for predictable deployment of infrastructure include the following suggested topics:

- A percentage of funds are required to be used for community input and outreach: Publicly accessible EV charging infrastructure or eligible fueling infrastructure installed with grants under the Charging and Fueling Infrastructure Program must be located along designated alternative fuel corridors or in certain other locations that are accessible to all drivers of such vehicles. Through this program for corridor and community charging, a percentage of awarded funds should be used to gather feedback and input from the community the chargers are intended to serve. Community feedback and input can be gathered through in-person meetings, online surveys, web-tools, etc. to allow for near-by communities to be aware of opportunity for infrastructure build-out and to provide input and suggestions of how the infrastructure would best support each communities' needs.

- Letters of support from community representatives, residents, or NGOs serving the nearby community: Priority will be given to projects that have partnerships or letters of support from community representatives, residents, or NGOs serving the nearby community. Partnerships and support letters from the community will provide evidence of community understanding and buy-in on the installation of EV charging infrastructure or eligible fueling infrastructure and will encourage these use and support of this infrastructure after installation.

- Supporting data and census tract information need to be included in application for community grants: Supporting data needs to be included in applications that expand access to EV charging and eligible fueling infrastructure in rural areas, low- and moderate-income neighborhoods, and communities with a low ratio of private parking spaces to households or a high ratio of multi-unit dwellings to single family homes. Supporting data will help with consideration of geographic diversity and encourage a balance between urban and rural communities.

- Timeline for deployment: Clear guidance should be given on the timeline for project development and deployment to allow for enough time to administer funds, but to also encourage timely deployment of funds and installation of infrastructure.

**12. Please provide any suggestions to inform the administration of competitive grants under the Charging and Fueling Infrastructure Program for corridor and community charging.**

The following are suggested topics to inform the administration of competitive grants under the Charging and Fueling Infrastructure Program for corridor and community charging:

- Provide preference to locally-based contractors and agencies: To avoid stranded assets and delays in repairs, funding conditions should provide a more favorable review or preference to entities that utilize or employ locally-based companies as part of their project bids.

- Allow "publicly accessible EV charging infrastructure" to include workplaces and multi-unit dwellings: Allow program funds to be used on the installation of charging infrastructure at workplaces for employee and fleet charging and parking for residents of multi-unit dwellings.

- Multi-modal hubs: Suggest emphasis on projects that expand or fill gaps in access to reliable transportation options such as micro-mobility, bike sharing, ridesharing, transit, and car sharing programs that include publicly accessible EV charging infrastructure. These projects are expected to reduce greenhouse gas emissions by providing increased and reliable transportation options and reducing vehicle miles travelled through multiple transportation modes. Projects for multi-modal hubs can utilize funds for any related construction or reconstruction and the acquisition of real property directly related to the project.

- Include funds for vehicle deployment or vehicle rebate: To support equitable access to EVs and EV charging infrastructure allow for a portion of funds to be eligible to be used on electric vehicle car sharing programs in low- and moderate-income neighborhoods and electric vehicle rebates for low- and moderate-income households.